

Nokia produces a number of handsets including the Nokia N86 which is one device that powers the KNFB Reader? Many aspects of the user experience on modern Nokia mobile phone handsets are inaccessible by nonvisual means. For example, when a blind or deaf blind consumer unboxes a device like a Nokia N86 from the factory, there is no nonvisual access to the setup procedure. Similarly, the PC Suite software which is essential to use the device fully has largely not been accessible to pc screen readers. Nokia also has a store where consumers can buy applications and other media. The store is not accessible even with 3rd party screen readers such as Talks or Mobile Speaks. Finally for a long time the email client on the Nokia N86 and similar devices was not accessible via nonvisual means. This meant that business professionals and consumers who are blind could not access key features of the phone that sighted users take for granted. Nokia has failed to address these major and substantial accessibility issues in their products. Nokia has been made aware of these issues, and has failed to substantively address these issues. The FCC should compel Nokia to provide nonvisual means to access these kinds of devices and platforms. Nokia has failed to either provide an out-of-box fully accessible platform such as the Apple model, and it has failed to work with 3rd party screen reader developers to ensure that blind and deaf blind consumers can fully utilize the devices.

#### Google Android Accessibility

While some individuals have worked on nonvisual accessibility to Google Android devices, the devices remain largely inaccessible by typical blind consumers. Only savvy technology users have been able to gain access to parts of the Android experience. The nonvisual user experience has been articulated as similar to trying to access Linux. Clearly the strategy that Google, carriers, and related device manufacturers have employed has not produced a sufficient and meaningful nonvisual user experience. The FCC must compel Google, device manufacturers, and carriers to establish tangible accessibility to the Android platform quickly, and quickly doesn't mean 10 years from now.

#### Do Blind People Just Want Access To Old and Boring Features?

It is worth noting that, sometimes, carriers and device manufacturers, including but not limited to Nokia, trumpet very basic accessibility features. For example, spoken caller id, or a phone speaking the numbers that a user dials. The fact is that blind and deaf blind consumers don't just want access to old and boring features that were standard in the year 1999. Blind and deaf blind consumers have an inherent civil right to enjoy the full breadth and depth that current and future mobile phone platforms currently do and will offer in the future. This includes, but is not limited too, full nonvisual access to basic calling features, phone management, phone menus, full contact management, web browsing, application marketplaces, applications provided by carriers, applications provided by 3rd party developers, media consumption services provided by the 2 aforementioned provider groups, etc. Again, this is not an exhaustive list. The list may sound long, however, this is the access that the general public enjoys and frankly takes for granted. I want to update my Facebook status, Twitter status, share music and other media, download podcasts, produce podcasts, find nearby restaurants,

and get walking directions just as much as I want to use the phone to make calls.

### How Nonvisual Mobile Device Accessibility Is Achievable

This type of nonvisual accessibility is also achievable. The reason we have not moved forward much since 1996 is that carriers and device manufacturers have failed to devote sufficient resources to nonvisual access to their products and services. The industry has made disingenuous claims that accessibility is not achievable. The entire telecommunications ecosystem has not embraced nonvisual access and accessibility in to their corporate culture and corporate DNA at every level of their organizations from the CEO, their research and development efforts, standards for device manufacturers, right down to entry level sales and service staff.

The telecommunications ecosystem and related industry should really take a page out of Apple's playbook. Apple is the only device manufacturer that I am aware of that takes accessibility seriously, and which provides consumers with a steady stream of positive innovations. Apple regularly and meaningfully participates in consumer and accessibility industry trade shows such as the National Federation of the Blind convention. The Boston Apple Store proactively reaches out to the blind community to foster a mutually beneficial positive relationship, and has devoted resources in its training programs who specialize in the built in VoiceOver nonvisual accessibility screen reading function. I often read that Apple hires accessibility engineers, testers, and others to ensure its products are accessible. Apple includes full nonvisual accessibility functions, not just a few old and boring basic features, in all its current iPhones at no additional cost to blind consumers! The National Federation of the Blind presented an award to Apple at our 2010 national convention for their trailblazing efforts in meaningfully and tangibly recognizing our technology civil rights. I can update my Facebook status, check in to FourSquare, buy music from iTunes, order a taxi electronically, look up and modify travel reservations, syncronize corporate Microsoft Exchange data, review nearby tweets on Twitter, or send a picture of something I need recognized to an innovative iOS application like OMobie. I can do all this because Apple takes nonvisual accessibility seriously!

Other developments that the FCC can consider as proof of concept that full nonvisual accessibility is achievable include but are not limited to closed captioning in televisions, the wide deployment of talking automatic teller machines, and the use of nonvisual accessible Kiosks at Amtrak which like an ATM provide a spoken user interface for blind consumers.